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| 10/587,967 | 07/31/2006 | Peter Ludwig | 64349US010 | 6670 |
| 32692 7590 06/03/2009 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427 | | | | |
| EXAMINER MOORE, WALTER A | | | | |
| ART UNIT | | PAPER NUMBER | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
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Office Action Summary

Application No.

10/587,967

Applicant(s)

LUDWIG, PETER

Examiner

WALTER MOORE

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-14 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 05 May 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-8508)
4) ☐ Interview Summary (PTO-413)
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____
Paper No(s)/Mail Date _____

DETAILED ACTION

Acknowledgement of Documents

1. Examiner acknowledges receipt of Applicant's amendments to claims, argument, specification, drawings, abstract on 5 May 2009. Claims 1 to 14 are now pending. The Abstract, Drawing replacement sheets, and Specification are accepted and have been entered. Any rejections made in the previous office action and not repeated are withdrawn.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 14 is indefinite because the meaning of the phrase "modified silicone system" is unclear. Is a modified silicone system something that necessarily includes silicone in the final printing material or does the modified silicone system just make use of silicone at some point in the manufacturing process?

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-8 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Sher et al., USPN 6,197,397.

7. Regarding claims 1 and 14, Sher teaches a separating layer carrier (release liner, Col. 15, In. 13) comprising a laminar substrate (polyethylene terephthalate, Col. 15, In. 14) and a separating layer applied thereon (silicone release coating, Col. 15, In. 17), wherein the carrier comprises a relief structure with raised sections (microembossed, Col. 15, In. 18) forming substantially complementary channels (intersecting microchannels, Col. 15, In. 31) in a layer of adhesive (Col. 15, In. 44), through which air trapped during adhesion can escape (Col. 5, In. 22), characterized in that the relief structure is provided, at least in part, by an imprint (microembossed, Col. 15, In. 18) of a printing material (silicone rubber roll, Col. 15, In. 20) on the substrate.

8. Regarding claim 2, Sher taught the substrate comprised paper (Col. 21 In. 29).

9. Regarding claims 3 and 4, Sher taught the substrate comprised paper (Col. 21 In. 29) coated with plastic (Col. 21 In.31).

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10. Regarding claim 5, Sher taught the substrate comprised plastic film (Col. 9, In. 17-20).

11. Regarding claim 6, Sher taught the substrate comprised plastic film coated with plastic (Col. 15, In. 13-16).

12. Regarding claim 7, Sher does not expressly state the relief structure is imprinted on the entire surface of the separating layer carrier (release liner). However, Sher implies the relief structure exists on the interlayer support (release liner) in three different ways.

13. First, Sher implies the relief structure (microembossed pattern) is imprinted entirely on the separating layer carrier (release liner). In Sher, the relief pattern was formed by passing the multiple layer film laminate through an engraved roller apparatus, which formed a relief pattern on the separating layer carrier (release liner, Col. 15, In. 19-21). Since there is a plastic layer in the separating layer carrier (release liner) and there was a relief structure formed on the separating layer carrier (release liner), there was a relief structure formed on the plastic coating of the interlayer support (release liner) taught in Sher. Sher does not indicate that there is a margin section to the rollers. Furthermore, the pattern formed on the substrate is a "pattern of continuous raised intersecting microridges" (Col. 15, In. 31). The lack of a margin on the periphery of the rollers and the continuous pattern implies that the relief pattern is formed on the entire surface of the substrate.

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14. Second, Figure 1 is photograph of a substrate (release liner). Figure 1 shows a relief structure over the entire surface of the substrate in the photograph.

15. Third, Sher prepared several test samples. The test samples have a substrate with a relief pattern printed on the entire surface of the substrate. Sher conducted tests of the various properties of the adhesive material. In order to form each test sample, Sher passed a substrate (release liner) through a roller with a continuous pattern (Col. 15, In. 31). After passing through the roller assembly, adhesive was applied to each sample (Col. 16, Examples 6-8, In. 66). Then, Sher cut a circular section out of the adhesive material (Col. 13, In. 49-65). Cutting a circular section out of a prepared adhesive material implies that the relief pattern existed on the entire surface of the test sample. In order to form the relief pattern on the adhesive, a relief pattern existed on the substrate contacting the adhesive (Col. 3, In. 35-36; and Col. 15, In. 59-60). So, the relief pattern covered the entire substrate of the test sample.

16. Regarding claims 8 and 13, Sher prepared an example with interconnected hexagons in a honeycomb arrangement (Col. 21, In. 1).

17. Regarding claim 10, Sher teaches the relief structure comprises sections having a width of 165 μm (Col. 16, In. 39) and a height between 25 and 30 μm (Col. 16, In. 39).

18. Regarding claim 11, Sher teaches the area of the polygons was 0.5929 mm^2 (Col. 16, Table 1; "Engraved Roll Groove Spacing", 0.77mm x 0.77mm = 0.5929 mm^2).

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19. Regarding claim 12, Sher teaches the separating layer carrier comprises a self adhesive material (pressure sensitive adhesive, Col. 15, ln. 44).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sher et al., USPN 6,197,397.

22. Sher is relied on as above regarding the section 102 rejection.

23. Regarding claim 7, Sher does not expressly teach the relief structure covers the entire surface. However, Sher implies the relief structure exists on the interlayer support ("release liner") in three different ways.

24. First, Sher implies the relief structure (microembossed pattern) is imprinted entirely on the separating layer carrier (release liner). In Sher, the relief pattern was formed by passing the multiple layer film laminate through an engraved roller apparatus, which formed a relief pattern on the separating layer carrier (release liner, Col. 15, ln. 19-21). Since there is a plastic layer in the separating layer carrier (release liner) and there was a relief structure formed on the separating layer carrier (release liner), there was a relief structure formed on the plastic coating of the interlayer support (release liner) taught in Sher. Sher

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does not indicate that there is a margin section to the rollers. Furthermore, the pattern formed on the substrate is a "pattern of continuous raised intersecting microridges" (Col. 15, In. 31). The lack of a margin on the periphery of the rollers and the continuous pattern implies that the relief pattern is formed on the entire surface of the substrate.

25. Second, Figure 1 is photograph of a substrate (release liner). Figure 1 shows a relief structure over the entire surface of the substrate in the photograph.

26. Third, Sher prepared several test samples. The test samples have a substrate with a relief pattern printed on the entire surface of the substrate. Sher conducted tests of the various properties of the adhesive material. In order to form each test sample, Sher passed a substrate (release liner) through a roller with a continuous pattern (Col. 15, In. 31). After passing through the roller assembly, adhesive was applied to each sample (Col. 16, Examples 6-8, In. 66). Then, Sher cut a circular section out of the adhesive material (Col. 13, In. 49-65). Cutting a circular section out of a prepared adhesive material implies that the relief pattern existed on the entire surface of the test sample. In order to form the relief pattern on the adhesive, a relief pattern existed on the substrate contacting the adhesive (Col. 3, In. 35-36; and Col. 15, In. 59-60). So, the relief pattern covered the entire substrate of the test sample.

27. It would have been obvious to one of ordinary skill in the art to make an interlayer with a relief structure covering the entire substrate. One would be motivated to use a substrate with a relief structure provided on the entire

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substrate because the channels formed by the relief structure are required to allow air trapped in under the adhesive to escape (Col. 10, ln. 43-44) and the absence of channels reduced the adhesive's ability to effectively exhaust trapped air (Col. 13, ln. 60-63).

28. Regarding claim 9, Sher teaches a relief pattern having corner joined polygons (Figures 1 and 3; and Col. 15, ln. 30-32). Sher teaches it is within the skill in the art to create any pattern desired, including Euclidean geometric patterns with any size, shape, and depth (Col. 7, ln. 49-54).

29. However, Sher does not teach a relief structure comprising stochastically shaped and distributed irregular polygons.

30. Sher teaches the shape of the relief pattern could be based on Euclidean or fractal geometry (Col. 4, ln. 29). Euclidean geometry includes all shapes of polygons. Additionally, Sher teaches the relief structure could be distributed like a "tributary-river configuration in a watershed" (Col. 7, ln. 38-40). A tributary-river system is a system of rivers joining together. Each stream enters the river system at a different point. The overall system creates a series of interconnected channels. The spaces between the channels have various shapes and sizes. Looking at a selected region of the river system the shapes and sizes of the spaces between the river channels could appear to be random. Additionally, fractals are complex mathematically defined shapes, which appear to be repeating sequences of random shape distributions.

31. It would have been obvious to one of ordinary skill in the art to make a separating layer with stochastically shaped and distributed polygons because

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Sher suggests that the irregular shape aids in fluid egress from under the adhesive layer as it is applied to a substrate (Col. 7, Ln. 38-40).

32. In the alternative, if Sher does not sufficiently suggest the claimed relief structure, it is well settled that a particular shape of a prior invention carries no patentable weight unless the applicant can demonstrate that the new shape provides significant unforeseen improvements to the invention. In the instant case, the application does not indicate any new, significant attributes of the invention due to its shape which would have been unforeseen to one of ordinary skill in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to change the shape, taught in Sher, to stochastically shaped and distributed irregular polygons. One skilled in the art would have been motivated to do so in order to improve fluid egress. MPEP 2144.04 IV.

Double Patenting

33. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

34. Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 of copending Application No. 10/588,134 in view of Sher et al., USPN 6,197,397. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

35. Regarding claim 1, '134 claims an separating layer carrier (interlayer support, claim 1) comprising a laminar substrate and separating layer (interlayer, claim 1) applied thereon, wherein the carrier (interlayer support, claim 1) comprises a relief structure with raised sections (webs, claim 1) forming substantially complementary channels in a layer of adhesive, through which air trapped during adhesion can escape, characterized in that the relief structure is provided, at least in part, by an imprint on the substrate (claims 5 and 10).

36. '134 does not claim the imprint is from a printing material.

37. Sher teaches a the relief pattern may be formed in a separating layer carrier ("liner") by passing the multiple layer film laminate through an engraved roller apparatus, which forms a relief pattern on the separating layer carrier ("release liner", Col. 15, ln. 19-21). So, the relief structure is formed in the substrate through the pressure applied to the laminar substrate in the rolling

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process. It would have been obvious to one of ordinary skill in the art at the of invention to form a separating layer with a imprint in the substrate because Sher taught that forming a relief structure by passing the separating layer carrier through a roller apparatus is an effective means to form a relief structure (Col. 15, ln. 22).

38. It is the Examiner's position that the roller, taught in Sher, is a printing material (Col. 15, ln. 20).

39. Regarding claims 2-6, '134 claims the substrate is paper (claim 6), coated with plastic (claim 4), plastic film (claim 7), coated paper (claim 8), and plastic coated with plastic (claim 11).

40. Regarding claim 7, '134 claims the relief structure is imprinted on the entire surface of the substrate (claim 12).

41. Regarding claim 9, '134 claims the relief pattern is an irregular polygon structure stochastically shaped and distributed corner-joined polygons (claim 1).

42. Regarding claim 10, '134 claims a separating layer carrier (interlayer support) in which relief structure comprises sections (webs) having a width of from 50 μm to 200 μm and a height of from 5 μm to 40 μm (claim 2).

43. Regarding claim 11, '134 claims a separating layer carrier (interlayer support) in which each polygon structure has an area from 0.5 mm^2 to 3 mm^2 .

44. Regarding claim 12, '134 claims a self-adhesive material comprising a separating layer carrier (interlayer support, claim 13).

45. Regarding claims 8 and 13, '134 claims stochastically shaped and distributed irregular polygons. '134 does not claim regular polygons, rhombuses,

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or regular hexagons. However, it is well settled that a particular shape of a prior invention carries no patentable weight unless the applicant can demonstrate that the new shape provides significant unforeseen improvements to the invention. In the instant case, the application does not indicate any new, significant attributes of the invention due to its shape which would have been unforeseen to one of ordinary skill in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to change the shape, claimed in '134, to regular polygons, rhombuses, or regular hexagons. One skilled in the art would have been motivated to do so in order to improve fluid egress. MPEP 2144.04 IV.

46. Furthermore, Sher prepared an example with interconnected hexagons in a honeycomb arrangement (Col. 21, ln. 1).

47. Regarding claim 14, Sher teaches the printing material is silicon rubber (Col. 15, ln. 20).

Response to Arguments

48. Applicant's arguments filed 5 May 2009 have been fully considered but they are not persuasive. Applicant distinguished Sher et al., USPN 6,197,397, by arguing Sher teaches the relief structure is formed by embossing a pattern on a sheet. Applicant amended claim 1 to include the limitation "of a printing material". However, this new phrase does not distinguish the claims from the teachings of Sher.

49. It is the Examiner's position that the imprint is the microembossed pattern and the printing material is the silicone rubber roller. The silicon rubber roller

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imprints a microembossed pattern on the release liner. Therefore, the silicone rubber roller is a printing material.

Conclusion

50. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

51. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **WALTER MOORE** whose telephone number is (571) 270-7372. The examiner can normally be reached on Monday-Thursday 9:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The

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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WM/
Walter Moore, Examiner AU 1794

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1794